

**The Self-Wiring Machine:
Development and Functional Organization of Nervous Systems**

The 1993 MCDB Graduate Student Symposium
April 16-18, 1993

Keynote Address:

Daniel Alkon, National Institutes of Health. *Varieties of Neuronal Experience.*

Session I: Neurogenesis

Susan K. McConnell, Stanford University. *The Specification of Neuronal Identity in Mammalian Cerebral Cortex.*

Marianne Bronner-Fraser, University of California, Irvine. *Neural Crest Origin and Migration.*

Session II: Axonal Migration and Pathfinding

Mark Tessier-Lavigne, University of California, San Francisco. *Mechanisms of Axon Guidance in the Developing Vertebrate Spinal Cord.*

Judith S. Eisen, University of Oregon. *Development and Axonal Outgrowth of Identified Motoneurons in Zebrafish.*

Geoffrey M.W. Cook, University of Cambridge. *Segmentation and Neural Development in Vertebrates: Repellent Cues in Axon Guidance.*

Session III: Target Recognition and Synapse Formation

Story C. Landis, Case Western Reserve University. *Developmental Interactions Between Neurons and their Target Tissues.*

Mu-Ming Poo, Columbia University. *Synapse Formation: Surface Interactions and Activity-Dependent Modulation.*

Session IV: Sensory and Motor Systems, Learning and Memory

John Carlson, Yale University. *Olfaction in Drosophila melanogaster.*

Nicholas J. Strausfeld, University of Arizona. *Visual Pathways and Place Memory in Insects: Why Flies Don't Bump Into Trees and Why Roaches Know Where They Are.*

Thomas J. Carew, Yale University. *Serotonergic Modulation of Aplysia Sensory Neurons: Mechanistic Parallels Between Development and Memory Storage.*

**The Human Genome Project: Some Assembly Required
The Methods, Goals, and Implications of the Human Genome Project**

The 1994 Graduate Student Symposium
April 15-17, 1994

Keynote Address:

Leroy Hood, University of Washington School of Medicine. *Perspectives on the Human Genome Project.*

Session I: Finding the Parts - Large Scale Sequencing Technology

Bob Waterston, Washington University School of Medicine. *The C. elegans Genome Project: Lessons.*

Leroy Hood, University of Washington School of Medicine. *Large Scale DNA Sequencing.*

Stephen Fodor, Affymetrix, Santa Clara, CA. *Oligonucleotide Arrays and Sequence Analysis by Hybridization.*

Session II: Assembly Instructions - Analysis of Genomic Sequence Data

David Searls, University of Pennsylvania School of Medicine. *Genome Linguistics.*

Richard Mural, Oak Ridge National Laboratory. *Combining Neural Networks and Expert Systems to Identify Features in DNA Sequences.*

Phil Green, Washington University School of Medicine. *Ancient Conserved Regions: Implications for Gene Identification.*

Session III: Trouble Shooting - Understanding Human Genetic Disease

Kathleen Gardiner, Eleanor Roosevelt Institute. *Chromosome 21: Its Associated Genetic Diseases and Its Place in the Human Genome Project.*

Charles Laird, University of Washington. *Triplet Repeat Disease and Genomic Imprinting.*

Mary-Claire King, University of California, Berkeley. *Mapping Genetic Disorders.*

Session IV: Disclaimers - Ethical, Legal, and Social Issues

Kenneth Kidd, Yale University Medical School. *Diverse Human Genomes.*

Dean Hamer, National Institutes of Health. *Genetics and Sexual Orientation.*

Michael Yesley, Los Alamos National Laboratory. *The NIH-DOE ELSI Program.*